

ZEUXINE PANTLINGII, SP. NOV. (ORCHIDACEAE),
A NEW SPECIES FROM INDIA

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ABSTRACT

A new species of *Zeuxine* Lindl., ***Zeuxine pantlingii*** Av. Bhattacharjee & H.J. Chowdhery closely allied to *Z. goodyeroides* Lindl. is described from West Bengal, India. A brief life sketch and a portrait of Robert Pantling after whom the species is named is also provided.

KEY WORDS: Orchidaceae, New species, *Zeuxine pantlingii*, West Bengal, India

RESUMEN

Se describe una nueva especie de West Bengal, India de *Zeuxine* Lindl., ***Zeuxine pantlingii*** Av. Bhattacharjee & H.J. Chowdhery fuertemente relacionada con *Z. goodyeroides* Lindl. Se aporta también un breve resumen de la vida y un retrato de Robert Pantling a quien se dedica la especie.

Dressler (1993) placed the genus *Zeuxine* Lindl. in the subtribe *Goodyerinae* Klotzsch under the tribe Cranichideae Endlicher of the subfamily Spiranthoideae Dressler. It is represented by about 70 species (Pearce & Cribb 2002) widely distributed from tropical Africa, Madagascar through India, Sri Lanka and to the Pacific Islands while, 16 species are known from India (Singh et al. 2002). During a recent plant collection trip to North Bengal in connection with the revisionary studies of the family Orchidaceae for *Flora of India* project of Botanical Survey of India, the authors came across an interesting specimen of *Zeuxine* Lindl. A critical study of the literature and herbarium material revealed it to be a hitherto unknown species of the genus *Zeuxine*, which is described and illustrated here.

Zeuxine pantlingii Av. Bhattacharjee & H.J. Chowdhery, sp. nov. (**Figs. 1–3**). TYPE: INDIA. WEST BENGAL: Darjeeling District, near Mongpoo, ca. 900 m, 28 Aug 2005, A. Bhattacharjee 34807 (HOLOTYPE: CAL).

Zeuxini goodyeroidi Lindl. arte affinis, sed foliis non albocinereo-coloratis; bracteis dorse purpureoviridibus; inflorescentiis laxis, 2–3(–4) floriferis; floribus magnioribus; hypochilis lateraliter longiappendiculatis; epichilis mesochilis plus minusve ad 90°; pollinario longiore, multo longistipato et viscidio crassissimo differt.

Terrestrial, rhizomatous herb, 14.5–24 cm long. **Rhizome** subterranean, creeping, hardly distinguishable from the aerial stem, rooting at nodes, 3–5 cm long. **Roots** dull yellow-white, fleshy, tomentose, 3–6 cm long. **Aerial stem** erect, terete, glabrous, purple-green, 3–6 cm long. **Leaves** 4–6, petiolate; petiole sheathing at base, sheath membranous, clasping, pink-white, 7–10 mm long; lamina obliquely ovate-lanceolate, entire, acuminate, glossy, with dark velvety-green upper surface and purple-green lower surface, 12–36 × 7–15 mm, 7-veined. **Inflorescence** 2–3(–4) flowered in very lax spike. **Spike** terminal, peduncle terete, sparsely tomentose, 7–10 cm long, with 2 distant sheaths; sheaths ovate, cuspidate, clasping, membranous, glabrous, pink, 8–13 × 2–3 mm, 3-veined; rachis terete, sparsely tomentose, 1.8–3 cm long. **Flowers** resupinate, 1.2–1.6 cm long, pink-white, not fully open-

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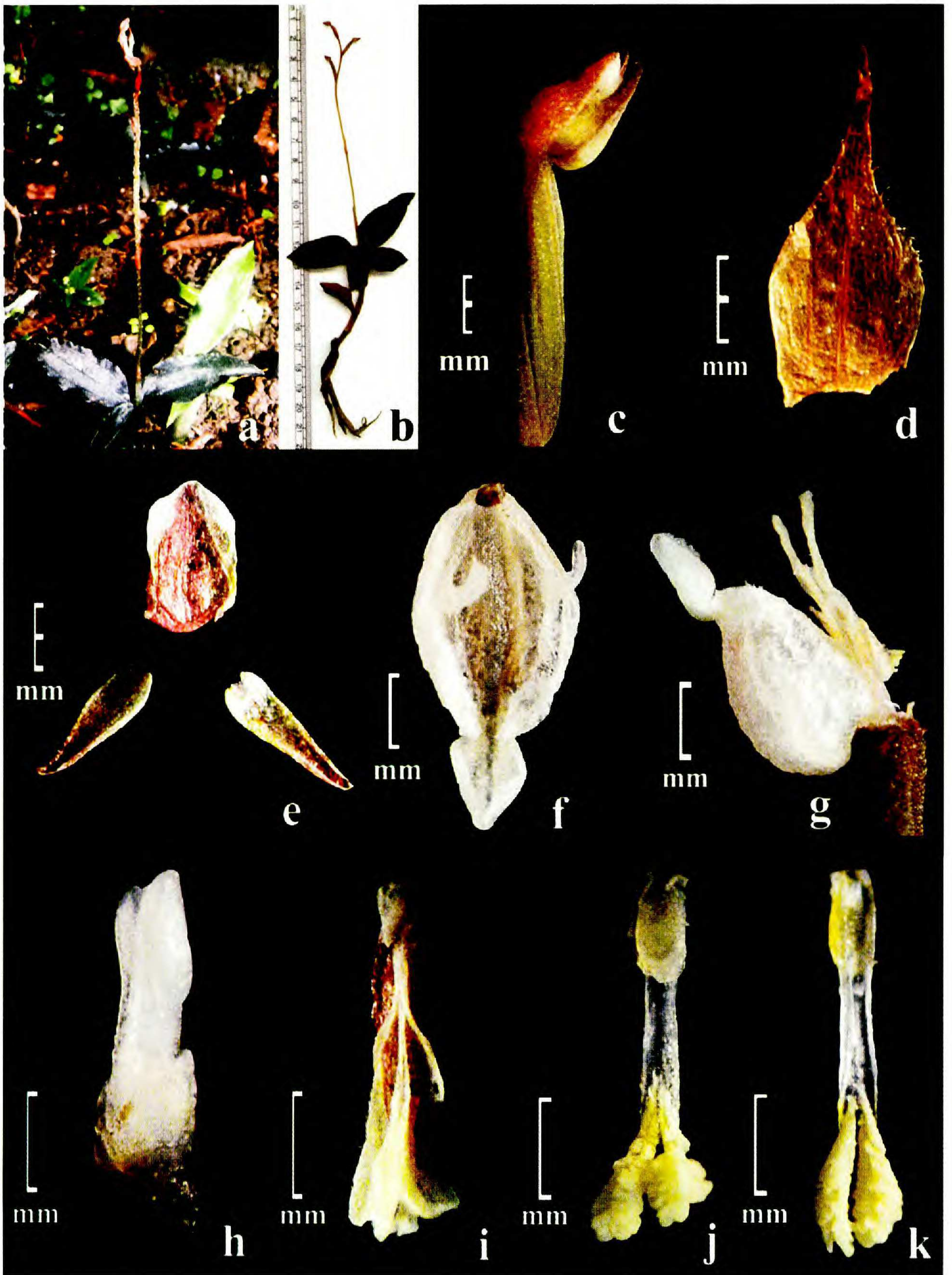


FIG. 1. *Zeuxine pantlingii* Av. Bhattacharjee & H.J. Chowdhery; **a.** habit, **b.** entire plant, **c.** flower, **d.** bract, **e.** sepals and petals, **f.** lip (top view), **g.** lip (lateral view) with bifid rostellum, **h.** column (in bud), **i.** anther cap, **j.** pollinia with stipe and viscidium (front), **k.** pollinia with stipe (tegula) and viscidium (back).

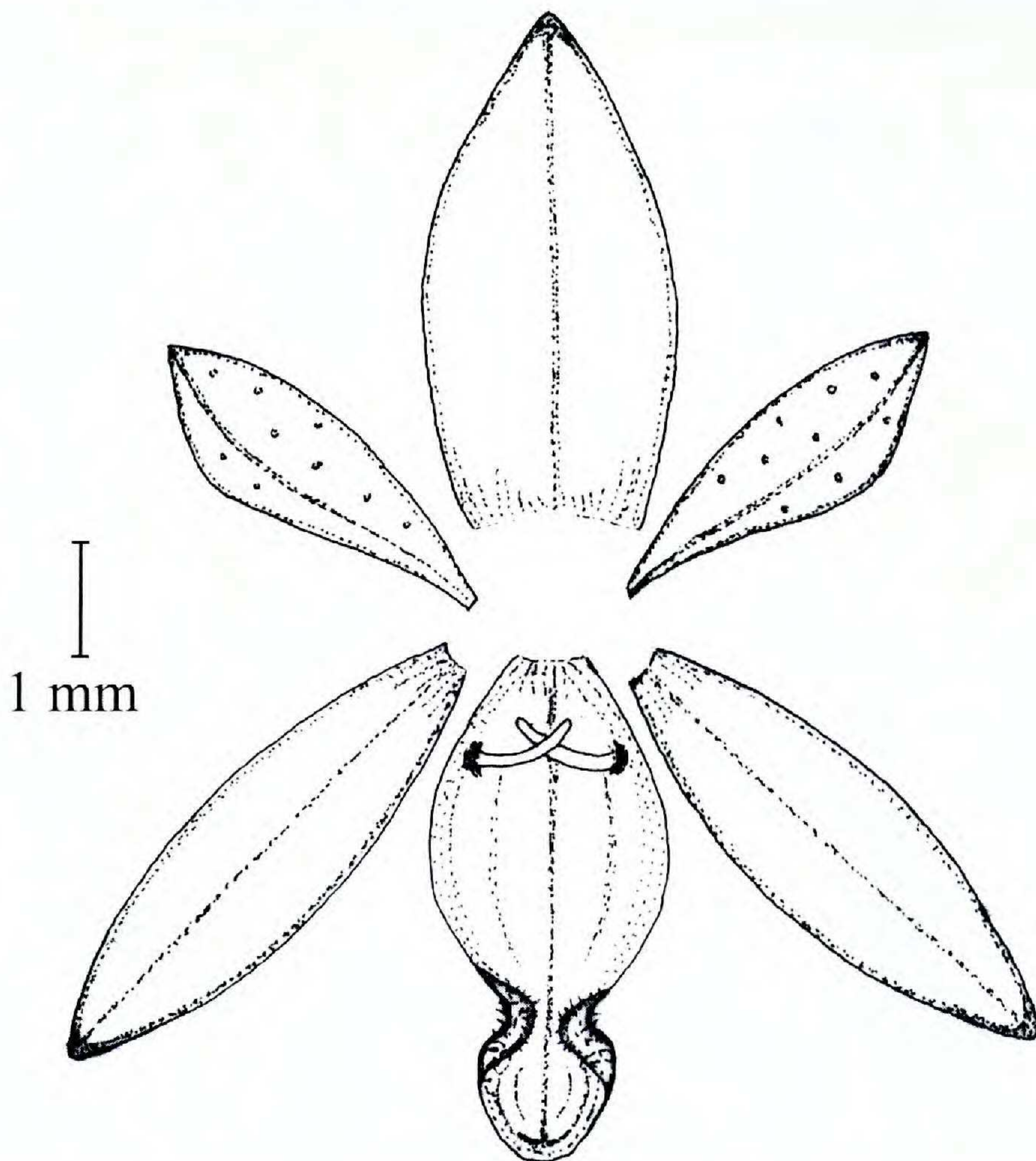


FIG. 2. Perigone (dissected) of *Zeuxine pantlingii* Av. Bhattacharjee & H.J. Chowdhery

ing. **Floral bracts** triangular-ovate, abruptly acuminate, more or less equaling the ovary, sparsely pubescent dorsally at basal region, finely serrated at margins, purplish-green, $9-11 \times 4-4.5$ mm (at widest end), 3-veined. **Sepals** unequal, free, glabrous; **dorsal sepal** ovate, acute, forming a hood with petals, pink-red, $4.5-5.5 \times 2-3$ mm, 1-veined; **lateral sepals** narrowly lanceolate, sub-acute, proximally dull green, distally pink-red, $5-6 \times 1-2$ mm, 1-veined. **Petals** obliquely falcate, acute, thin, with scattered minute dots, apically connate at a point, glabrous, white, $3-4 \times 1-1.5$ cm, 1-veined. **Lip** connate to the column base, white with light pink tinge, 4-5 mm long; **hypochile** broadly saccate, 2-3 mm broad when spread, each side internally with 1 erect, cornute, ca. 1 mm long lateral gland or appendage; **mesochile** very short, margins incurved to form a flap like structure on both sides, flap with minute hairs; **epichile** simple, obtuse, more or less perpendicular to mesochile, surface finely granular, 1-1.5 mm in diameter, margins slightly incurved. **Column** ca. 1 mm high, weakly winged below. **Anther** beaked, erect; anther cap narrowly triangular, dull white with red tinge, 3-3.5 mm long; **pollinia** 2, sectile, clavate, clefted, dull yellow-white, ca. 4 mm long; caudicles short; stipe (tegula) linear, semi-transparent, ca. 2.5 mm long; **viscidium** thick, oblong, dull straw-yellow. **Rostellum** bifid, 2-2.5 mm long; stigma with 2 lateral lobes, ovate; **ovary** pale-green, $11-12 \times 2-2.5$ mm.

Closely allied to *Zeuxine goodyeroides* Lindl. but differs in having leaves without any white-gray midvein; more broader, dorsally purplish-green bracts; larger flowers, 2-3 (-4) in lax inflorescence; hypochile with longer lateral appendages, epichile more or less

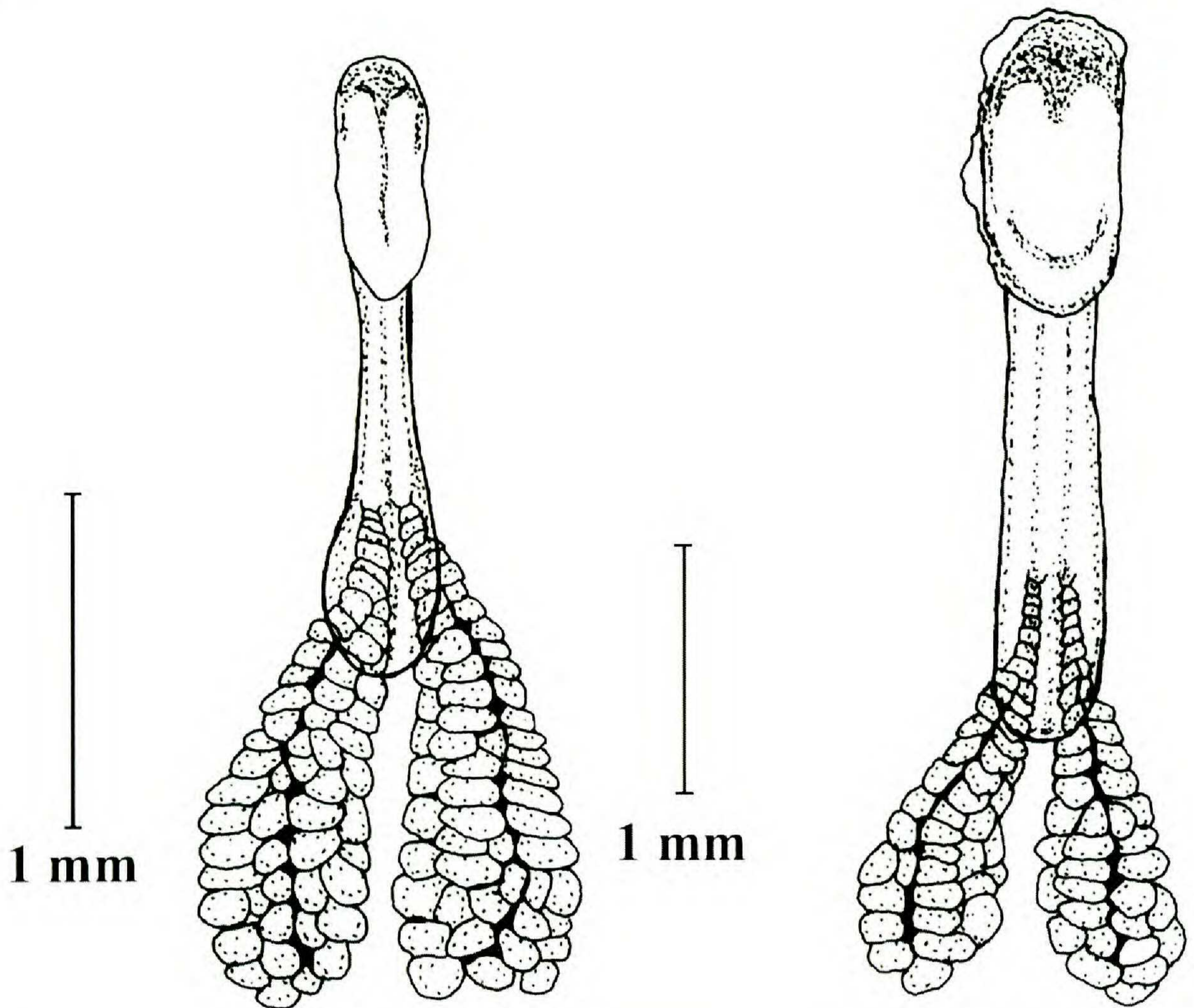


FIG. 3. Pollinarium of *Zeuxine goodyeroides* and *Zeuxine pantlingii* (compared).

perpendicular to the mesochile; longer pollinarium with much longer stipe and very thick, dull straw-yellow viscidium.

Flowering.—August–September

Distribution.—India, West Bengal, Darjeeling District, near Mongpoo, ca. 900 m.

Zeuxine pantlingii Av. Bhattacharjee & H.J. Chowdhery is closely allied to *Zeuxine goodyeroides* Lindl., but can be distinguished from several characters in Table 1.

Etymology.—The new species is named in honour of Robert Pantling (1856–1910), a British botanist known for his masterly drawings and colour paintings of Indian orchids.

Robert Pantling (1856–1910) (Fig. 4) was borne in North of England in the year 1856. His interest and passion for flowers helped him to get an apprenticeship in Duke's service at the age of 16. After three year's apprenticeship at the age of 19, Robert Pantling was admitted to the Royal Botanic Garden on 5 July, 1875. He left Kew on 14 July 1877 to join the Royal Botanic Gardens at Windsor. He came to India in 1879 as an assistant in Cinchona Department and subsequently appointed as Curator in the Royal Botanic Garden, Calcutta, but his deteriorating health and a new post of Senior Assistant took him back to Mongpoo in the Eastern Himalayan foothills in Darjeeling district where he spent his remaining service in India. At Mongpoo apart from carrying out official duties Pantling undertook many plant collection tours to Sikkim Himalayan region and collected hundreds of orchids. He prepared their drawings and published several new genera and a

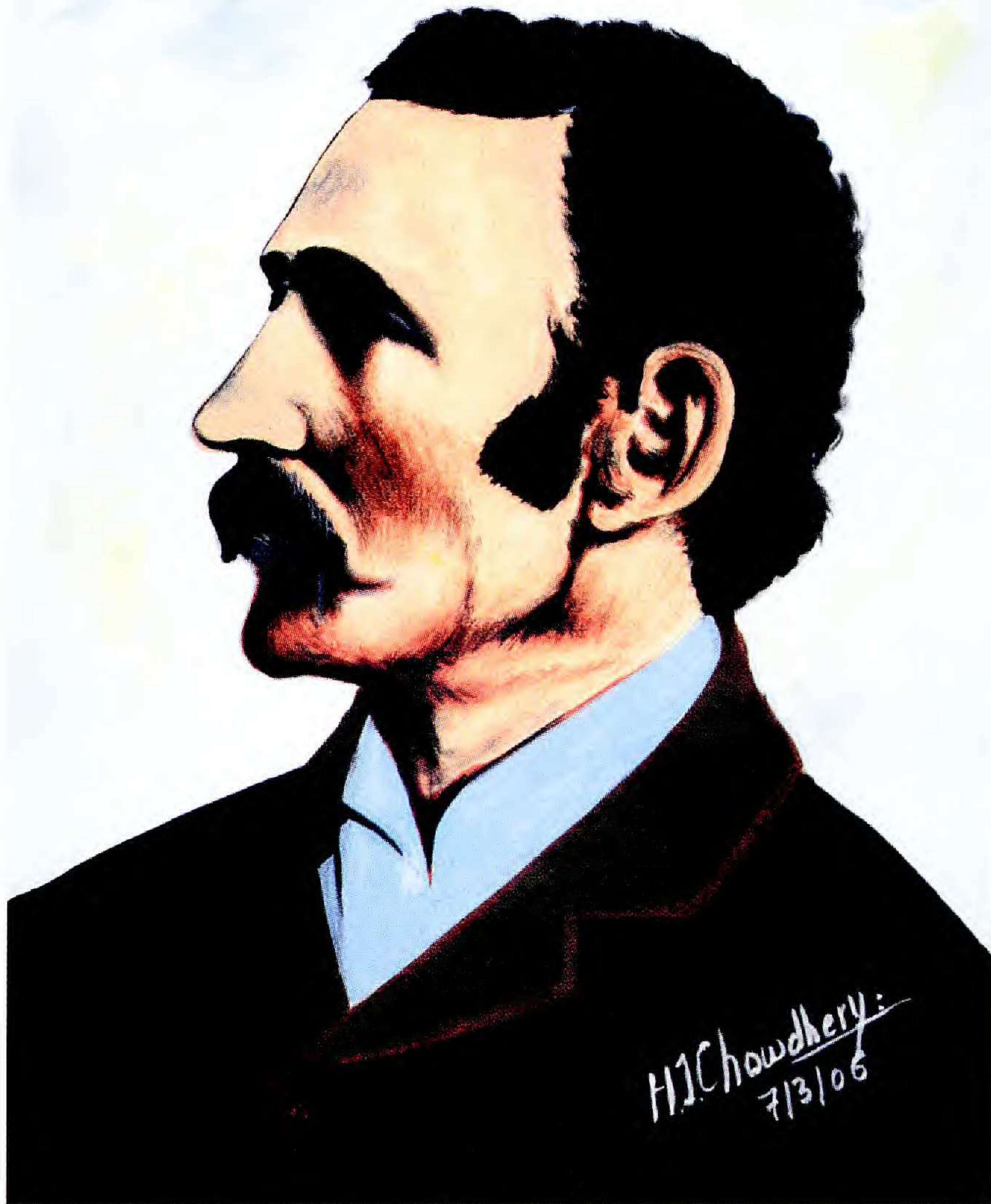


FIG. 4. Painting of Robert Pantling (1856–1910).

TABLE 1. Comparison between *Zeuxine goodyeroides* and *Zeuxine pantlingii*.

<i>Z. goodyeroides</i> Lindl.	<i>Z. pantlingii</i> Av. Bhattacharjee & H.J. Chowdhery
Leaves with a distinct, white-gray midvein.	Leaves without any white-gray midvein.
Inflorescence 3–16 flowered in comparatively dense spike.	Inflorescence 2–3(–4) flowered in very lax spike.
Bract narrower at base.	Bract broader at base.
Hypochile with shorter lateral glands or appendages within.	Hypochile with longer lateral glands or appendages within.
Epichile more or less horizontal to mesochile.	Epichile more or less perpendicular to mesochile.
Pollinarium shorter, with shorter stipe (tegula). Viscidium thin, transparent (in live specimen). Stipe slightly constricted near the middle (Fig. 3).	Pollinarium longer, with longer stipe (tegula). Viscidium very thick, dull straw-yellow (in live specimen). Stipe linear (Fig. 3).

very large number of new species in collaboration with George King, the then in-charge of Calcutta Botanic Garden. His hard official duties, field work and studying minute floral details of orchids and drawing large number of orchid illustrations impaired his eyesight and further deteriorated his health. Pantling's ailing health did not permit him to publish any work on orchids after his classic work on orchids, "Orchids of Sikkim Himalaya" in 1898, co-authored with George King. Pantling died at the age of 54 at Suez on his way back home. He served in India for 31 years. He was commemorated by the orchid genus *Pantlingia* and a large number of species.

Robert Pantling will be known for his meticulous, beautiful and unmatched, highly accurate scientific drawings and paintings of orchids of India, Myanmar and Malaysia drawn by him with great precision, which shows his skill and mastery over the subject. These drawings are preserved in the archival section of Central National Herbarium, Botanical Survey of India, Howrah.

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